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INSECTS WHICH ATTRACT PUBLIC ATTENTION

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CERTAIN species of insects are more or less continually attracting the attention of people and, while the following remarks apply particularly to the New Jersey public, there is no reason why they should not hold good for many other eastern states where conditions are somewhat similar. The entomologist of a state or experiment station is perhaps more likely to be familiar with such insects than any other agency, inasmuch as one of the duties of his position is to furnish insect information upon request and by reason of his official position, a large percentage of such requests naturally fall into his hands.

In view of the fact that 10,530 species of insects have been recorded from New Jersey, it might appear that out of this large number three or four hundred would attract attention annually, but such is not the case, as the following condensed tables will show. These tables have been compiled from the reports of the entomologist of the New Jersey Agricultural Experiment Stations,[1] for the five years 1913 to 1917, containing lists of the insects about which information was requested during the year. Such lists reflect public interest in entomology and should be fairly accurate for the purpose. The species mentioned in such correspondence naturally fall in the following groups—those injurious in the household and to stored products, those injurious or annoying to vertebrates, those injurious to vegetation and predatory species. A few additional groups could be added, but for the sake of simplicity and on account of the slight public interest in them these have been placed together in the miscellaneous columns of the tables. These tables also give the names of the orders to which the insects belong, the total number of species involved and the number of inquiries received.

It will be seen that species in orders such as the Thysanura, Thysanoptera, Odonata, Isoptera and Neuroptera attract very little attention, due to the fact that such groups contain only a

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[1] Headlee, T. J., Repts. Dept. Ent. N. J. Ag. Exp. Sta., 1913–1917.

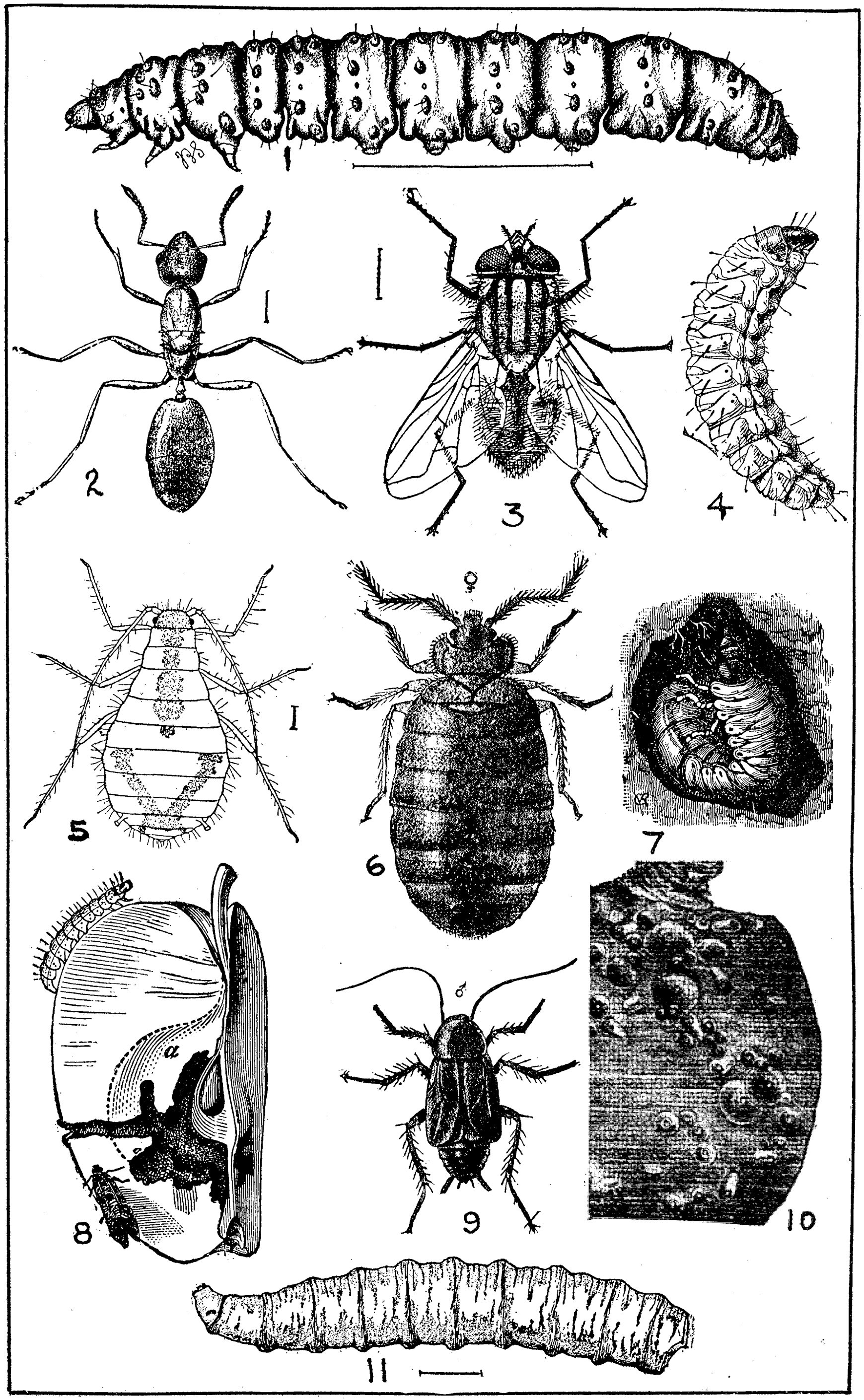
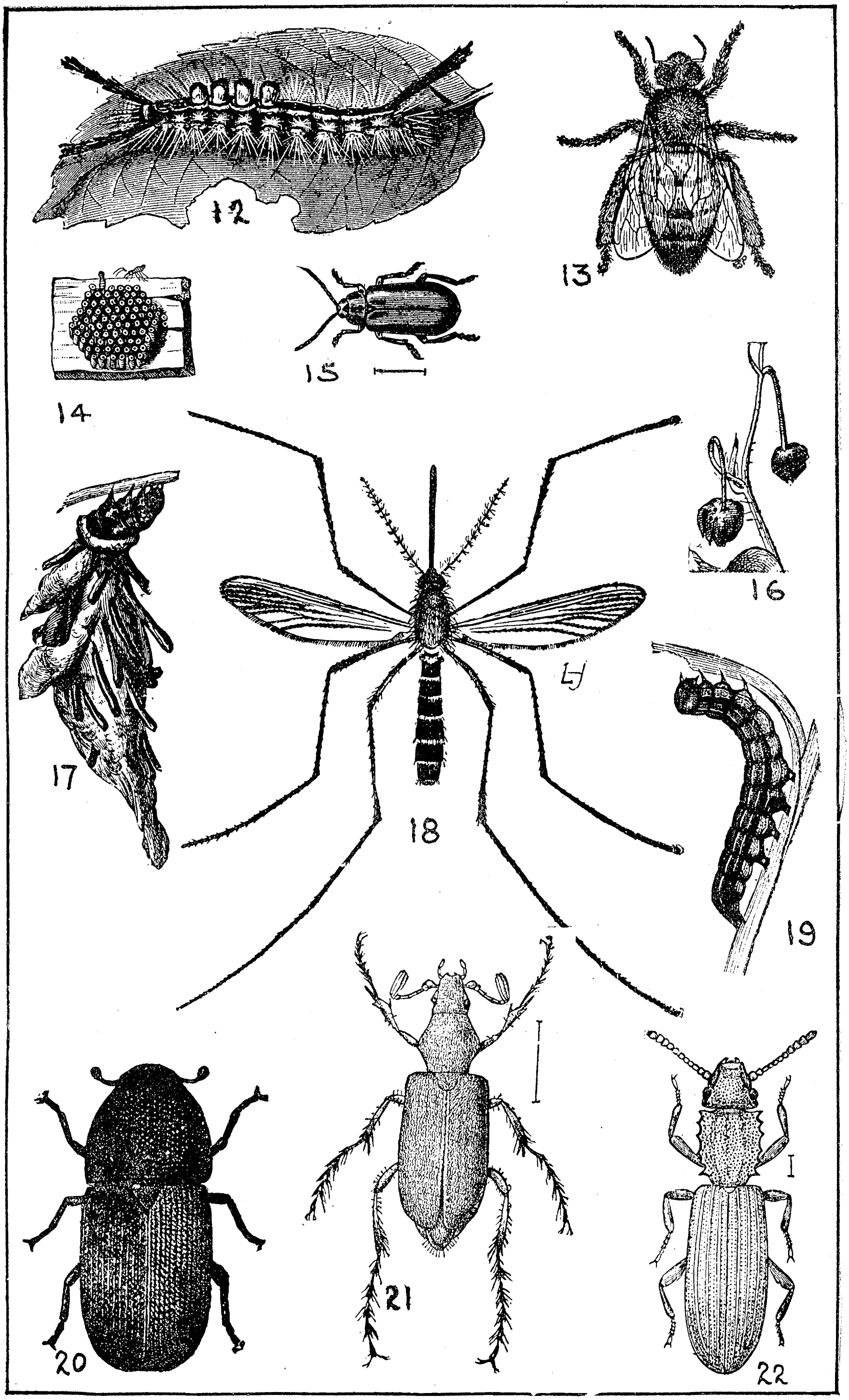


FIG. 1, peach borer larva; 2, little red house ant; 3, house fly; 4, plum curculio larva; 5, a plant louse; 6, bed bug; 7, white grub; 8, codling moth and larva and injury to apple; 9, roach; 10, San Jose scales; II, cabbage maggot; 12, tussock moth caterpillar; 13, worker honey bee; 14, egg mass of wheel bug; 15, elm leaf-beetle; 16, strawberry buds cut by weevil; 17, bag worm; 18, house mosquito; 19,



army worm; 20, fruit tree bark beetle; 21, rose chafer; 22, saw-toothed grain beetle. (Figs. 1, 5, 18, after Smith; Fig. 11, after Smith and Dickerson; 13, after Carr; 3, after Howard; 20, after Forbes; 10, from Bull. Virginia Exp. Sta.; 7, 19, 12, after Riley; remaining figures from Bur. Ent. U. S. Dept. Agric.)

TABLE I. 1913

Order	Total No. Inquiries	No. Species Involved	Injur. to Household and Stored Products	Injur. to Vegetation	Injur, to Vertebrates	Predatory Species	Miscell. Species
Thysanura	2	1	1				
Isoptera	2	1	1				
Neuroptera	1	1					
Thysanoptera	2	2		2			
Homoptera	158	41		41			
Hemiptera	12	5		3	1	1	
Orthoptera	7	5	1	4			
Coleoptera	84	35	7	26		2	
Lepidoptera	71	33	2	31			
Hymenoptera	16	9	1	7		1	
Siphonaptera	1	1			1		
Diptera	54	12	2	7	2		1
Total	410	146	15	121	4	4	1

TABLE II. 1914

Order	Total No. Inquiries	No. Species Involved	Injur. to Household and Stored Products	Injur. to Vegetation	Injur. to Vertebrates	Predatory Species	Miscell. Species
Thysanura	1	1	1				
Thysanoptera	1	1		1			
Homoptera	106	33		33			
Hemiptera	11	8		6		1	1
Orthoptera	8	8	3	4		1	
Coleoptera	101	49	2	44		3	
Lepidoptera	106	38		38			
Hymenoptera	16	13	2	6		2	3
Siphonaptera	3	1			1		
Diptera	27	14	2	9	3		
Total	380	166	10	141	4	7	4

TABLE III. 1915

Order	Total No. Inquiries	No. Species Involved	Injur. to Household and Stored Products	Injur. to Vegetation	Injur. to Vertebrates	Predatory Species	Miscell. Species
Isoptera	2	1	1				
Odonata	1	1					1
Thysanoptera	7	2		2			
Homoptera	125	39		39			
Hemiptera	10	7		4	1	2	
Orthoptera	14	5	2	2		1	
Coleoptera	92	36	7	28		1	
Lepidoptera	120	36	1	35			
Hymenoptera	36	11	1	6		1	3
Siphonaptera	3	1			1		
Diptera	65	19	2	12	4		1
Total	475	158	14	128	6	5	5

TABLE IV. 1916

Order	Total No. Inquiries	No. Species Involved	Injuries to Household and Stored Products	Injur. to Vegetation	Injur. to Verte-brates	Predatory Species	Miscell. Species
Homoptera.....	79	31		31			
Hemiptera	7	4		3	1		
Orthoptera	4	4	2	2			
Coleoptera	80	32	6	26			
Lepidoptera	75	32	1	31			
Hymenoptera...	26	11	1	7		1	2
Siphonaptera ...	4	2			2		
Diptera........	54	17	1	14	2		
Total........	329	133	11	114	5	1	2

TABLE V. 1917

Order	Total No. Inquiries	No. Species Involved	Injur. to Household and Stored Products	Injur. to Vegetation	Injur. to Vertebrates	Predatory Species	Miscell. Species
Thysanura	1	1	1				
Thysanoptera...	1	1		1			
Homoptera.....	190	36		36			
Hemiptera	10	6		4	1	1	
Orthoptera.....	17	8	1	5		2	
Coleoptera	110	33	5	28			
Lepidoptera	150	48	1	47			
Hymenoptera...	40	11	3	3		2	3
Siphonaptera ...	6	2			2		
Diptera........	67	21	1	16	2		2
Total........	592	167	12	140	5	5	5

comparatively small percentage of the total number of species in all orders and because of the relatively few injurious species in them. Most of the species which attract the attention of the people are found in such orders as the Homoptera, Coleoptera, Lepidoptera, Diptera and Hymenoptera, with the first three leading. These three groups include a large percentage of forms which feed upon vegetation, while in the Diptera and Hymenoptera the percentage of injurious species is smaller.

The striking thing shown in all of the tables is the small number of species involved, considering the number of injurious forms in each group. Thus of the Homoptera, with a total number of recorded species in New Jersey of 507, with all of them feeders upon vegetation, only from 31 to 46 species attracted attention. The number involved in the Lepidoptera varied from 32 to 48 and this order contains at least 2,000 species, which are feeders on vegetation in a recorded number of 2,120 in New Jersey. Of the Coleoptera, with its 3,000 recorded species, 1,200 of which are injurious to vegetation, the number attracting attention varied from 32 to 49. The same thing is true for the remaining orders.

TABLE VI

	Total No. Inquiries	No. Species Involved	Injur. to Household and Stored Products	Injur. to Vegetation	Injur. to Vertebrates	Predatory Species	Miscell. Species
1913	410	146	15	121	4	4	1
1914	380	166	10	141	4	7	4
1915	475	158	14	128	6	5	5
1916	329	133	11	114	5	1	2
1917	592	167	12	140	5	5	5
5-yr. average . . .	437	154	12	129	5	4	3

Table VI. is a partly summarized account of the preceding tables and shows the five-year averages. Thus from a five-year average of 437 inquiries only 154 species were involved, 129 of which attracted attention because they were injuring vegetation, five because of their annoyance or injury to vertebrates and twelve because of their trouble in the household or to stored products. The average number of four species in the predatory column probably attracted attention because they were thought to be injurious and the same is true of most of the three species in the miscellaneous column, these representing wasps, bees and parasitic forms in both Hymenoptera and Diptera.

The relationship between the number of inquiries and the number of species involved for the five-year period is shown in Chart I. The "species involved" curve shows very little variation, while the "inquiry" curve is very irregular. This is due to the fact that an outbreak of a certain species or several species will add materially to the number of inquiries but not increase the number of species very much.

Among the species involved in each group, a small number attracts most of the attention. In the Homoptera they are plant lice and scale insects, the plant lice being those infesting orchard trees and garden plants, the scales being those found commonly on fruit, forest and ornamental trees. In the Hemiptera, the bed bug and squash bug appear to be popular, with several species of leaf bugs holding second place. The eggs of the wheel bug (*Arilus cristatus*) and one or more species of assassin bugs, which also are predatory, usually receive some slight attention, due to the fact that they are thought to be injurious. More species are involved in the Coleoptera, but the public favorites are white grubs, wire-worms, plum curculio, bean weevil, potato beetle, potato flea beetle, elm leaf-beetle, rose chafer, strawberry weevil, asparagus beetle and fruit bark beetle. Similar conditions exist in the Lepidoptera, the species attracting most attention being the corn-ear worm, apple tree tent-caterpillar, peach borer, cut worms, tussock moth, bag-worms, codling moth, cabbage worm, army worm and squash borer. In both Hymenoptera and Diptera a smaller number of species is involved. In the former order, ants, saw flies and bees are the most important from a public viewpoint, while in the latter we have the house fly, mosquitoes, Hessian fly and cabbage and onion maggots occupying first place. On the accompanying plates may be found illustrations of some of the species which are more or less constantly in the public eye. To the entomologist they represent well-known pests, but the public is always demanding information about them.

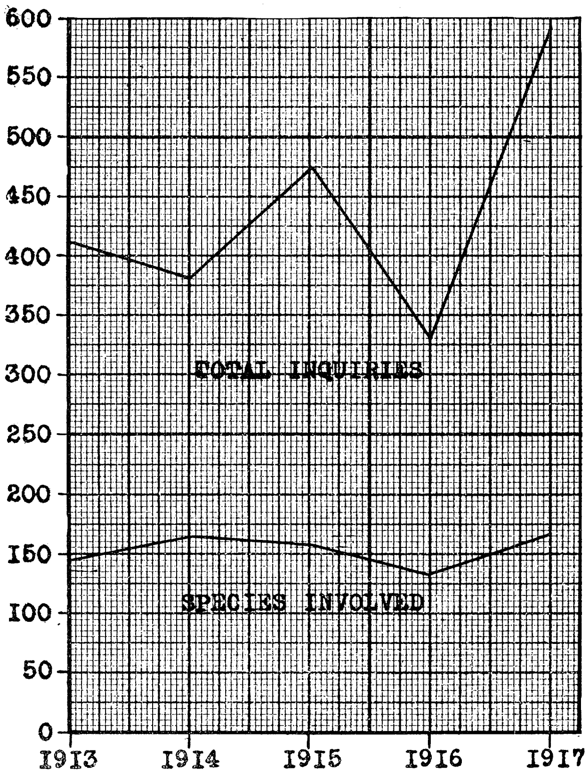


CHART I.

Briefly summarizing, the insects which ordinarily attract public attention are those which annoy or injure man or those which destroy or injure his personal belongings, crops and live stock. Certain supposedly harmless species and certain species destructive in some areas but not in others have attracted widespread attention, but only by reason of the advertising which they received. In such cases public attention was directed to them and not attracted by them.

The average number of inquiries received during a year compared with the total population (2,800,000) of a state like New Jersey appears to be exceptionally small, and to some might indicate little public interest in insects. This, however, is not unusual when one considers the varied industries in the state and the fact that "75 per cent. of all the people are found in communities of over 2,500, occupying less than six per cent. of the whole area."[2] Except for such creatures as flies, mosquitoes, certain household and shade-tree pests, the city and town dweller is not likely to have his attention attracted to insects. In New Jersey, considerable public interest is centered around a few rather than many species. As outbreaks of pests are simply responses to environments, so public interest in insects is a response at least in part to environment, whether it be natural or artificial.

[2] Ann. Rept. N. J. Dept. Conservation and Development, 1917.